

**ABSTRACT OF THE DISCLOSURE**

The present application provides a vector for trapping an unknown gene of *Drosophila melanogaster*, which is a recombinant plasmid comprising the following nucleotide sequences in this order: an artificial consensus splicing acceptor site; a synthetic “stop/start” sequence; a reporter gene; a drug resistance gene; a gene responsible for a detectable phenotype of the *Drosophila melanogaster*; and a synthetic splicing donor site. The present application also provide a method for trapping an unknown gene of *Drosophila melanogaster* by using the vector.